

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2970136PC/su	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FI98/00239	International filing date ( <i>day/month/year</i> ) 18.03.1998	Priority date ( <i>day/month/year</i> ) 20.03.1997
International Patent Classification (IPC) or national classification and IPC <sub>6</sub> H 01 F 27/28		
Applicant Micronas Oy et al		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand  20.10.1998	Date of completion of this report  28.06.1999
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  Bengt Romedahl/MN Telephone No. 08-782 25 00

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI98/00239

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☐ the description, pages \_\_\_\_\_, as originally filed,  
 pages \_\_\_\_\_, filed with the demand,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the claims, Nos. \_\_\_\_\_, as originally filed,  
 Nos. \_\_\_\_\_, as amended under Article 19,  
 Nos. \_\_\_\_\_, filed with the demand,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
 sheets/fig \_\_\_\_\_, filed with the demand  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>4, 8, 10, 11</u>	YES
	Claims	<u>1-3, 5-7, 9</u>	NO
Inventive step (IS)	Claims	<u>4, 8, 10</u>	YES
	Claims	<u>1-3, 5-7, 9, 11</u>	NO
Industrial applicability (IA)	Claims	<u>1-11</u>	YES
	Claims		NO

**2. Citations and explanations**

The claimed invention relates to a strip-line inductor. An object of the invention is to obtain such an inductor, in which power loss and reduction of a quality factor caused by eddy currents are significantly smaller than in prior art strip-line inductors. In short, this is achieved with the order of parallel and/or overlapping sub-strip-lines being changed at least once during the total length of the strip-line conductor.

## Cited documents:

D1: US 5436441 A

D2: US 5559360 A

D1 discloses spiral coil wires on a printed circuit board. The wires are connected in parallel, and the order of the wires is changed, as is immediately obvious from the example figures 1-3. Moreover, this arrangement means that electromotive forces induced in the loops before the change point and the electromotive forces induced in the loops after the change point substantially cancel out each other. Also, the wires are in two layers on the board. Obviously, this document fully anticipates claims 1-3, 5-7 and 9.

D2 discloses an inductor, which constructionally and functionally is analog to the coil according to D1. Accordingly, also this document anticipates claims 1-3, 5-7 and 9.

Claim 11 merely states diverse well-known manufacturing methods. Using any of these methods for manufacturing the inductor is deemed highly obvious.

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: V

According to the above stated arguments the invention claimed in claims 1-3, 5-7 and 9 is not novel but considered to comprise industrial applicability. Claims 4, 8 and 10 is novel and considered to involve an inventive step and to comprise industrial applicability. Claim 11 is novel and considered to comprise industrial applicability but not considered to involve an inventive step.